In the Specification:

Please amend paragraph 0048 as indicated below.

[0048] In one embodiment the contact hole has a diameter d of 40 nm and a height h of 50 nm, the layer of phase change material is of composition $Ge_2Sb_2Te_5$ and has a layer thickness LT of 5 nm, the heating element 6 is of composition $Ta_{20}Si_{40}N_{10}$ and has a layer thickness MT of 5 nm. It is arranged inside the contact hole as depicted in FIG. 1. The heating element 6 has a heating element electrical resistance of approximately 1400 Ohm. In the crystalline phase and in the amorphous phase this resistor 7 [[6]] has a first electrical resistance of approximately 1600 Ohm and a second electrical resistance which is larger than 100 kOhm, respectively. Thus, the heating element electrical resistance is smaller than the maximum of the first electrical resistance and the second electrical resistance and larger than 0.3 times the minimum of the first electrical resistance and the second electrical resistance.